

INTERNATIONAL SEARCH REPORT

07 MAR 20
10/526965
International application No.
PCT/SE 2003/001395

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C08G 63/08, C08G 63/692, C08G 79/04, A61K 47/34
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C08G, A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC, CAPLUS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6166173 A (HAI-QUAN MAO ET AL), 26 December 2000 (26.12.2000), column 12, line 52 - line 53; column 12 - line 60, ex. 1 --	1,4-7,13-16
P,X	Polymeric Materials: Science & Engineering, volume 88, 2003, Jöns Hilborn et al: "Biodegradable Phosphatidylcholine Functional Poly(epsilon-Caprolactone), pages 109-110 --	1-22
P,X	Polymeric Materials: Science & Engineering, volume 88, 2003, Fredrik Nederberg: "Vesicular Transportation in Cell-Cell Communication as a Means for a Novel Drug Carrier", pages 202-203 --	1-22



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
16 February 2004

Date of mailing of the international search report
10 -02- 2004

Name and mailing address of the ISA/
Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer
Erika Stenroos/EIs
Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 2003/001395

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Biomaterials, volume 19, 1998, L. Ruiz et al: "Synthesis, structure and surface dynamics of phosphorylcholine functional biomimicking polymers", pages 987-998 --	1-22
A	US 6319512 B1 (ALEXANDRA ROTHEN-WEINHOLD ET AL), 20 November 2001 (20.11.2001) --	1-22
A	Chem. Mater. volume 10, 1988, Yu-Jun Li et al: "Synthesis and Hemocompatibility Evaluation of Novel Segmented Polyurethanes with Phosphatidyl- choline Polar Headgroups", pages 1596-1603 --	1-22
A	Polymer Preprints, volume 42, no. 2, 2001, Kazuhiko Ishihara et al: "Molecular Design and Preparation of Biospired Phospholipid Polymer as Novel Biomaterials", pages 117-118 --	1-22
A	Biomaterials, volume 20, 1999, Kazuhiko Ishihara et al: "Modification of polysulfone with phospholipid polymer for improvement of the blood compatibility. Part 1. Surface characterization", pages 1545-1551 --	1-22
A	WO 0168052 A2 (JOHNS HOPKINS UNIVERSITY), 20 Sept 2001 (20.09.2001) -- -----	1-22

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 2003/001395

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see next page

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: **1-22**

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

I. Claims 1-22

A polymer compound comprising biodegradable polyester having a terminal functional group based on hydrophilic moieties of phospholipids and a method for preparing the same

II. Claims 23-25

A method for preparing biodegradable and biocompatible polyester phospholipide-like analogues having a cationic terminal functional group, comprising the steps of ring-open a cyclic ester monomer with an alcohol providing a polymer with -OH terminal end groups, reacting said -OH groups with a ω -halo acid halide and reacting said polymer to obtain a polymer with functionalised end.

III. Claims 26-28

A method for preparing biodegradable and biocompatible polyester phospholipide-like analogues having an anionic terminal functional group, comprising the steps of ring-open a cyclic ester monomer with an alcohol providing a polymer with -OH terminal end groups, reacting said -OH groups with a succinic anhydride to produce a functionalised (carboxylic acid)- or carboxylate-terminated polymer.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 2003/001395

US 6166173 A 26/12/2000

US	6376644 B	23/04/2002
US	2002151617 A	17/10/2002
AU	742110 B	20/12/2001
AU	6944998 A	22/10/1998
BR	9809390 A	13/06/2000
CN	1107687 B	07/05/2003
CN	1256701 T	14/06/2000
EP	0971969 A	19/01/2000
HU	0001412 A	28/08/2000
IL	132122 D	00/00/0000
JP	2001521561 T	06/11/2001
NO	994803 A	03/12/1999
NZ	500674 A	01/02/2002
RU	2207350 C	27/06/2003
WO	9844020 A	08/10/1998

US 6319512 B1 20/11/2001

AU	742372 B	03/01/2002
AU	8109398 A	21/12/1998
EP	1001743 A	24/05/2000
IL	133105 D	00/00/0000
JP	2002511075 T	09/04/2002
NO	995908 A	02/12/1999
WO	9855101 A	10/12/1998

WO 0168052 A2 20/09/2001

AU	4734601 A	24/09/2001
US	2002155092 A	24/10/2002